

tured and hairy. Elytra with the inner apical angle right-angled and the outer rounded-off, largely punctured within the margin, especially near the apex. Tibiæ with a row of large spines down the outer, and a row of smaller ones down the inner side, 4-calcarate at the apex, the two inner spurs larger.

47. *Heteroglossa ruficollis*, N.

*H. colore præcedentis sed obscurior, thorace pectoreque rufo-testaceis, antennis art. 3 primis nigrescentibus. Long. corp. 4½ lin.*

Cum præcedente sed rarius et per occasionem nocte ad lumen cepi.

The shape of the body is quite that of the former, but the insect is larger. The head is less distinctly punctured than in the former, and there is an additional impression in the middle of the forehead. The thorax is also less deeply punctured, but the divisional furrow is more so than in the preceding species. The anterior tibiæ appear somewhat less deeply notched. There is nothing else to add to the description that has not been pointed out already.

48. *Heteroglossa bimaculata*, N.

*H. subcastanea, thorace capiteque rufo-testaceis, elytris medio maculis 2 flavis pictis, pedibus abdominisque apice testaceis. Long. corp. 5½ lin.*

Ubi præcedentes infrequentissime legi.

Head, with the exception of the forehead, deeply punctured, with two impressions in front of the eyes; anterior angles of labrum rounded. Thorax densely and deeply punctured, with elytra thinly pubescent; the latter with a round, yellow spot at the middle of each.

[To be continued.]

XXVIII.—*Descriptions of the Male of Lycosa tarentuloides Maderiana, Walck., and of three newly discovered species of the genus Lycosa.* By JOHN BLACKWALL, F.L.S.

Tribe OCTONOCULINA.

Family LYCOSIDÆ.

Genus LYCOSA, Latr.

*Lycosa tarentuloides Maderiana.*

*Lycosa tarentuloides Maderiana*, Walck. Hist. Nat. des Insect. Apt. t. i. p. 291, la femelle.

Length of the male  $\frac{9}{10}$ ths of an inch; length of the cephalo-

thorax  $\frac{1}{2}$ ; breadth  $\frac{2}{3}$ ; breadth of the abdomen  $\frac{5}{10}$ ; length of a posterior leg  $1\frac{3}{4}$ ; length of a leg of the third pair  $1\frac{2}{3}$ .

The cephalo-thorax is large, compressed before, rounded on the sides, convex, hairy, with a slight longitudinal indentation in the medial line; it is of a dark greyish-brown hue, with a broad, yellowish-grey band extending along each side and another along the middle, the latter, whose anterior part is the broadest, being somewhat the darker-coloured. The four small anterior eyes form a transverse, slightly curved row, having its convexity directed upwards, and the two intermediate ones are larger than the lateral ones. The falces are powerful, conical, vertical, armed with a strong curved fang at the extremity, and a few teeth on the inner surface: the lip is somewhat quadrate, rather longer than broad, and slightly hollowed at its extremity. These organs are of a brownish-black colour, the apex of the latter having a red-brown hue. The maxillæ are straight, and rounded at the extremity, which is enlarged and truncated obliquely at its inner surface; and the sternum is oval. These parts are of a dark brown hue, the base of the maxillæ being the darkest. The legs are long (much longer than those of the female), densely clothed with hairs, and provided with long spines; the femora, on the upper side, have a yellowish-grey hue, that of the tibiæ, metatarsi and tarsi being bright orange-red, and the colour of the under side of all the joints is dark brown tinged with grey; the fourth pair is the longest, then the first, and the third pair is the shortest; each tarsus is terminated by three claws; the two superior ones are curved and pectinated, and the inferior one, which is very small, is inflected at its base; the metatarsi and tarsi are provided on the under side with hair-like papillæ, constituting a climbing apparatus. The colour of the palpi resembles that of the legs, but is more intense; the under side is tinged with yellow, and the extremity of the digital joint has a dark brown hue; the radial is longer than the cubital joint; the digital joint has an elongated oval form, is convex and hairy externally, compact at its extremity, and has a concavity near its base, on the under side; this concavity comprises the palpal organs, which are moderately developed, rather complex in structure, with a prominent process near the base, below which there is a fine, pointed, straight spine directed obliquely forward and downward, and are of a reddish-brown colour. The abdomen is oviform, rather broader at the posterior than at the anterior part, convex above, densely clothed with hairs, and of a yellowish-brown colour; an obscure, fusiform band extends along the middle of the upper part, nearly half its length, and an angular, dark brown mark occurs at its anterior extremity, within the vertex of which there is a

tuft of yellowish hairs; the under is paler than the upper part, except in the medial line, which has a brown hue, and that of the branchial opercula is brownish-yellow.

The male of this handsome species does not appear to be known to arachnologists. Having had an opportunity of examining adult individuals of both sexes, found under stones in the island of Porto Santo, by James Yate Johnson, Esq., I am enabled to supply the deficiency. M. Walckenaer has given a very brief description of the female, from a specimen in the collection of M. Guérin, but states erroneously that the legs are not provided with spines.

*Lycosa ingens.*

Length of the female 1 inch and  $\frac{7}{12}$ ths; length of the cephalo-thorax  $\frac{7}{12}$ ; breadth  $\frac{5}{12}$ ; breadth of the abdomen  $\frac{5}{8}$ ; length of a posterior leg  $1\frac{7}{10}$ ; length of a leg of the third pair  $1\frac{2}{3}$ .

The legs are long, robust, densely clothed with hairs, and provided with long, sessile spines; they are of a brown-black colour, with white annuli and spots; one of the latter occurs on each side of the extremity of the tibiæ, and another at the extremity of the metatarsi, on the upper part; the fourth pair is the longest, then the first, and the third pair is the shortest; each tarsus is terminated by three claws; the two superior ones are curved and pectinated, and the inferior one is very small, and inflected at its base; the metatarsi and tarsi are provided on the under side with hair-like papillæ, constituting a climbing apparatus. The palpi are short, and are terminated by a curved, pectinated claw; they resemble the legs in colour, but the radial and digital joints have neither annuli nor spots. The cephalo-thorax is compressed before, rounded on the sides, convex, thickly clothed with short hairs, and has a slight longitudinal indentation in the medial line; it is of a dark brownish-grey colour, with an irregular greyish-white band extending along each lateral margin, and another of the same hue along the middle, whose anterior part is the broadest, of an elongated oval form, and comprises two parallel, curved, brownish-grey, longitudinal lines, having their concavity directed towards each other. The four small anterior eyes are nearly equal in size, and form a straight, transverse row near the frontal margin of the cephalo-thorax. The falces are powerful, conical, vertical, convex at the base, armed with a strong, curved fang at the extremity, and a few teeth on the inner surface: the maxillæ are straight, and rounded at the extremity, which is enlarged and truncated obliquely at its inner surface: the lip is broader in the middle than either at the base or the extremity, which latter is truncated and hollowed;



and the sternum is oval and glossy, with small prominences on the sides, opposite to the legs. These parts are of a brownish-black hue, the sternum and the extremities of the maxillæ and lip having a tinge of red. The abdomen is oviform, rather broader at the posterior than at the anterior part, convex above, densely clothed with short hairs, and of a brown-grey colour, the sides and under part, which are rather paler, being obscurely spotted with brown; at the anterior extremity of the upper part there is a large, angular, brown mark, and within the angle a yellowish-white triangular spot, trifid at its base, and having its vertex directed forwards; to this spot succeeds a fusiform, brown band, whose margins are the darkest; it extends nearly to the middle of the upper part, is bifid at its extremity, and has a small angular point on each side, near the middle, immediately above which there is a minute, red-brown depression encircled with yellowish-white hairs; a similar but somewhat smaller depression occurs on each side of the posterior extremity of the band, and these latter depressions are wider apart than the former; a series of minute, obscure, yellowish-white spots, commencing nearly opposite to the small angular point on each side of the fusiform band, extends to the spinners, which have a dark reddish-brown hue; the sexual organs have a longitudinal septum in the middle and are of a red-brown colour, that of the branchial opercula being yellowish-brown.

Two adult females of this fine spider, the largest species of the genus to which it belongs, were discovered under a stone in one of the Desertas,—rocky, uninhabited islands near Madeira. They were sent to me for inspection in August 1857, by James Yate Johnson, Esq., to whom I am obliged for permission to describe this and the preceding *Lycosæ*.

*Lycosa herbigrada.*

Length of the female  $\frac{3}{10}$ ths of an inch; length of the cephalo-thorax  $\frac{1}{8}$ ; breadth  $\frac{1}{12}$ ; breadth of the abdomen  $\frac{1}{10}$ ; length of a posterior leg  $\frac{1}{2}$ ; length of a leg of the third pair  $\frac{1}{3}$ .

The four small anterior eyes are arranged in a transverse row in front of the cephalo-thorax, the two intermediate ones being rather the smallest. The cephalo-thorax is compressed before, depressed and rounded on the sides, and has a slight longitudinal indentation in the medial line; it is of a red-brown colour, the space comprising the eyes, a broad, irregular band extending along each side, and a narrow line on each lateral margin having a brown-black hue; the red-brown spaces are covered with greyish hairs, and the medial one is abruptly contracted near its anterior extremity. The falcæ are powerful, conical, and

armed with a curved fang at the extremity and a few teeth on the inner surface : the maxillæ are short, straight, and enlarged and rounded at the extremity : the palpi are moderately long, and are terminated by a curved, pectinated claw. These parts have a red-brown hue, the maxillæ being the palest, and the palpi the darkest at their articulations. The lip is nearly quadrate, being rather broader at the base than at the apex, and is of a dark brown colour. The sternum is heart-shaped, clothed with greyish hairs, and is of a red-brown hue, with an oval space in the middle bounded by a fine, dentated, brown-black line, and has spots of the same hue on the lateral margins. The legs are long, moderately robust, provided with hairs and sessile spines, and of a red-brown hue, with dark brown streaks, spots and annuli ; the fourth pair is the longest, then the first, and the third pair is the shortest ; each tarsus is terminated by three claws ; the two superior ones are curved and pectinated, and the inferior one is inflected near its base. The abdomen is oviform, hairy, convex above, and projects over the base of the cephalo-thorax ; it is of a reddish-brown colour, the under part being the palest, and has on each side of the upper part a strongly dentated, brownish-black band ; these bands taper to the spinners, where they unite, and from some of their larger exterior angles, rows of brownish-black spots pass obliquely to the sides, which are marked with other spots of the same hue ; in the anterior part of the space comprised between the dentated, brownish-black bands there is an oblong-oval, reddish-brown mark, bounded by a fine black line having an acute angular point on each side and its posterior extremity bifid ; the sexual organs, which are highly developed and prominent, have a dark reddish-brown colour, and that of the branchial opercula is brown.

Two adult and two immature females of this *Lycosa* were forwarded to me in Wales in December 1856, by Mr. R. H. Meade. The two former were discovered by O. P. Cambridge, Esq., of Bloxworth House, in Dorsetshire, under a stone, near Pennsylvania Castle, in the Isle of Portland, on the 29th of September 1854 ; and the two latter were captured in July 1854, in Morden Park, near Bloxworth House, by the same gentleman, who has kindly permitted me to describe the species.

*Lycosa pallipes.*

Length of the female  $\frac{7}{24}$ ths of an inch ; length of the cephalo-thorax  $\frac{1}{8}$  ; breadth  $\frac{1}{10}$  ; breadth of the abdomen  $\frac{1}{9}$  ; length of a posterior leg  $\frac{2}{3}$  ; length of a leg of the third pair  $\frac{5}{16}$ .

The legs are moderately long, robust, provided with hairs and

sessile spines, and are of a uniform pale yellow-brown hue; the fourth pair is the longest, then the first, and the third pair is the shortest; each tarsus is terminated by three claws; the two superior ones are curved and pectinated, and the inferior one is inflected near its base. The palpi resemble the legs in colour, and have a curved, pectinated claw at their extremity. The two intermediate eyes of the four forming the anterior row are very conspicuously larger than the lateral ones. The cephalo-thorax is glossy, thinly clothed with hairs, compressed before, depressed and rounded on the sides, which are marked with slight furrows converging towards a narrow longitudinal indentation in the medial line; it is of a pale brown colour, with a yellowish-brown band extending along the middle, whose broad anterior extremity comprises a pale brown, bifid line terminating in an angle at the medial indentation; the lateral margins are supplied with hairs of brilliant whiteness, and the part occupied by the eyes has a dark brown hue. The falcæ are powerful, conical, and armed with a curved fang at the extremity and teeth on the inner surface: the maxillæ are short, straight, and enlarged and rounded at the extremity. These parts are of a pale reddish-brown colour. The lip is nearly quadrate, being rather broader at the base than at the apex; it is of a dark brown hue tipped with yellowish-brown. The sternum is heart-shaped and of a pale yellowish-brown colour, with black spots on the margins, opposite to the legs. The abdomen is oviform, rather broader at the posterior than at the anterior extremity, sparingly clothed with hairs, convex above, and projects over the base of the cephalo-thorax; it is of a brown colour, the under part being the palest and the sides the darkest; a yellowish-brown band extends from the anterior extremity of the upper part more than a third of its length, and on each side of the pointed termination of this band there is a brownish-black spot; between it and the spinners several curved, transverse, brownish-black bars occur, which diminish in extent as they approach the latter; they have their convexity directed forwards, their extremities somewhat enlarged, and, with the two brownish-black spots, have brilliantly white hairs distributed upon them in the form of minute but distinct spots; a short, curved, white line is directed upwards from the base of each superior spinner, and the sides are densely mottled with white; the sexual organs are small and of a dark reddish-brown colour, that of the branchial opercula being yellowish-brown.

An adult female *Lycosa pallipes* was taken in Algeria, by the Rev. Hamlet Clark, in the summer of 1856. This species should occupy a place among the semi-aquatic *Lycosæ*, being nearly allied to *L. piratica* and *L. piscatoria*.